

The following Listing of Claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

1. (Currently Amended) An air conditioning system ~~(1)~~~~(101)~~~~(201)~~~~(401)~~~~(601)~~ configured to treat ~~the~~ a latent heat load and ~~the~~ a sensible heat load in a room by performing a vapor compression refrigeration cycle operation, comprising:

a plurality of first utilization side refrigerant circuits ~~(10a, 10b)~~~~(210a, 210b)~~ each having an adsorbent heat exchanger ~~(22, 23, 32, 33)~~~~(222, 223, 232, 233)~~ provided with an adsorbent on ~~the~~ a surface thereof, and ~~capable of~~ configured for dehumidifying or humidifying air by alternating between an adsorption process in which moisture in air is adsorbed onto the adsorbent by causing the adsorbent heat exchanger to function as an evaporator that evaporates refrigerant and a regeneration process in which moisture is desorbed from the adsorbent by causing the adsorbent heat exchanger to function as a condenser that condenses the refrigerant;

a heat source side refrigerant circuit ~~(10e)~~~~(210e)~~ having a compression mechanism ~~(61)~~~~(261)~~ and a liquid container ~~(62)~~~~(262)~~ connected to an inlet side of the compression mechanism;

an exhaust gas connection ~~pie~~~~(7, 207)~~ pipe connected to a discharge side of the compression mechanism and configured to connect the utilization side refrigerant circuits to the heat source side refrigerant circuit; and

an inlet gas connection pipe ~~(8, 208)~~ connected to the inlet side of the compression mechanism, ~~wherein~~

~~the air conditioning system can~~ utilization side refrigerant circuits being configured to
supply a room with air that passed through the adsorbent heat exchanger.

2. (Currently Amended) The air conditioning system ~~(1)~~~~(101)~~~~(401)~~~~(601)~~
according to claim 1, wherein

the heat source side refrigerant circuit ~~(10e)~~~~(210e)~~ ~~comprises~~ includes a
supplementary condenser ~~(66)~~~~(266)~~ connected to the discharge side of the compression
mechanism ~~(61)~~~~(261)~~.

3. (Currently Amended) The air conditioning system ~~(101)~~~~(401)~~~~(601)~~
according to claim 1 ~~or 2~~, further comprising~~[[:]]~~

a plurality of second utilization side refrigerant circuits ~~(310a, 310b)~~~~(510a, 510b)~~
~~(710a, 710b)~~ each having an air heat exchanger ~~(322, 332)~~~~(522, 532)~~~~(722, 732)~~ and ~~capable~~
~~of exchanging~~ configured to exchange heat between refrigerant and air; and

a second heat source side refrigerant circuit ~~(310e)~~~~(510e)~~~~(710e)~~ connected to the
second utilization side refrigerant circuits and including a second compression mechanism
~~(361)~~~~(561)~~~~(761)~~ and a heat source side heat exchanger ~~(363)~~~~(563)~~~~(763)~~,

~~wherein~~

~~the air conditioning system can~~ second utilization side refrigerant circuits being
configured to supply a room with air that passed through the air heat exchanger.

4. (Currently Amended) The air conditioning system ~~(401)~~ according to claim 3,
wherein

the air conditioning system ~~calculates~~ is configured to calculate a generated sensible heat treatment capacity value (~~Δt~~) that corresponds to the capacity of the sensible heat treatment that is performed along with the latent heat load treatment in a room in the first utilization side refrigerant circuits (~~210a, 210b~~) through an adsorption process or a regeneration process in the adsorbent heat exchanger (~~222, 223, 232, 233~~), and then controls the operational capacity of the second compression mechanism (~~361~~) in view of the generated sensible heat treatment capacity value.

5. (Currently Amended) The air conditioning system (~~101~~) according to claim 4, further comprising

a supply air temperature detection mechanism (~~227, 237~~) configured to detect the temperature of air to be supplied to a room after the air passed through the adsorbent heat exchanger (~~222, 223, 232, 233~~), wherein

the air conditioning system ~~calculates~~ being configured to calculate the generated sensible heat treatment capacity value (~~Δt~~) based on the supply air temperature and the temperature of the room air detected by the supply air temperature detection mechanism.

6. (Currently Amended) The air conditioning system (~~101~~) according to claim 4 ~~or 5~~, wherein

at system startup, air that passed through the air heat exchanger (~~322, 332~~) is supplied to a room, and outdoor air is prevented from passing through the adsorbent heat exchanger (~~222, 223, 232, 233~~).

7. (Currently Amended) The air conditioning system (101) according to claim 4 to 5, wherein

at system startup, in a state in which switching between the adsorption process and the regeneration process in the plurality of adsorbent heat exchangers (222, 223, 232, 233) is stopped, outdoor air is passed through one of the plurality of adsorbent heat exchangers and then is exhausted to the outside, and also room air is passed through another adsorbent heat exchanger among one of the plurality of adsorbent heat exchangers, besides the one through which the outdoor air passed, and then is supplied to a room again.

8. (Currently Amended) The air conditioning system (101) according to claim 4 or 5, wherein

at system startup, a switching time interval between the adsorption process and the regeneration process in the adsorbent heat exchanger (222, 223, 232, 233) is made longer than that during normal operation.

9. (Currently Amended) The air conditioning system (101) according to ~~any one~~ of claims claim 6 to 8, wherein

~~the~~ a system startup operation is terminated after a predetermined period of time elapsed since system startup.

10. (Currently Amended) The air conditioning system (101) according to ~~any one~~ of claims claim 6 to 8, wherein

~~the~~ a system startup operation is terminated after a temperature difference between ~~the~~
a target temperature of room air and ~~the~~ a temperature of room air is equal to or below a
predetermined temperature difference.

11. (Currently Amended) The air conditioning system (101) according to ~~any one~~
~~of claims claim 6 to 10~~, wherein

before ~~the~~ a system startup operation starts, ~~whether or not~~ a temperature difference
between ~~the~~ a target temperature of room air and ~~the~~ a temperature of room air is equal to or
~~below a predetermined temperature difference~~ is determined, and

when the temperature difference between the target temperature of room air and the
temperature of room air is equal to or below a predetermined temperature, the system startup
operation is prevented from being performed.

12. (Currently Amended) The air conditioning system (601) according to claim 3,
further comprising

a pressure control mechanism (742)-(752) connected to a gas side of the air heat
exchanger (722)-(732) and configured to control ~~the~~ an evaporation pressure of refrigerant in
the air heat exchanger when the air heat exchanger is caused to function as an evaporator that
evaporates refrigerant.

13. (Currently Amended) The air conditioning system (601) according to claim
12, wherein

the evaporation pressure of refrigerant is controlled by the pressure control mechanism (742) (752), based on the a dew point temperature of room air[[,]] when the air heat exchanger (722) (732) is caused to function as an evaporator that evaporates refrigerant.

14. (Currently Amended) The air conditioning system (601) according to claim 13, further comprising

a pressure detection mechanism (743) (753) configured to detect the a refrigerant pressure in the air heat exchanger (722) (732) and the evaporation pressure of refrigerant, wherein

the air conditioning system ~~ealeulates~~ being configured to calculate a target evaporation pressure value (P3) based on the dew point temperature of room air and ~~uses~~ use the pressure control mechanism to control the evaporation pressure of refrigerant, ~~which was detected by the pressure detection mechanism~~, to be equal to or higher than the target evaporation pressure.

15. (Currently Amended) The air conditioning system (601) according to claim 14, further comprising

a condensation detection mechanism (726) (736) configured to detect the a presence of condensation in the air heat exchanger (722, 732), wherein

the air conditioning system ~~ehanges~~ being configured to change the target evaporation pressure value (P3), when condensation is detected by the condensation detection mechanism.

16. (Currently Amended) The air conditioning system ~~(401)~~ ~~(601)~~ according to ~~any one of claims~~ claim 3 and 12 to 15, further comprising
a condensation detection mechanism ~~(526, 536)~~ ~~(726, 736)~~ configured to detect ~~the a~~
presence of condensation in the air heat exchanger ~~(522, 532)~~ ~~(722, 732)~~, wherein
~~the air conditioning system stops the second compression mechanism (561) (761),~~
when condensation is detected by the condensation detection mechanism, the second
compression mechanism is stopped.

17. (Currently Amended) The air conditioning system ~~(401)~~ ~~(601)~~ according ~~any~~
~~of claims~~ claim 3 and 12 to 16, further comprising
a condensation detection mechanism ~~(526, 536)~~ ~~(726, 736)~~ configured to detect ~~the a~~
presence of condensation in the air heat exchanger ~~(522, 532)~~ ~~(722, 732)~~, wherein
the second utilization side refrigerant circuit ~~(510a, 510b)~~ ~~(710a, 710b)~~ ~~comprises~~
including an utilization side expansion valve ~~(521, 531)~~ ~~(721, 731)~~ connected to a liquid side
of the air heat exchanger, and
the air conditioning system ~~eloses~~ being configured to close the utilization side
expansion valve~~[[,]]~~ when condensation is detected by the condensation detection
mechanism.

18. (Currently Amended) The air conditioning system ~~(401)~~ ~~(601)~~ according to
~~any one of claims~~ claim 1 to 3 and 12 to 17, wherein
a switching time interval between the adsorption process and the regeneration process
in the adsorbent heat exchanger ~~(222, 223, 232, 233)~~ can be changed is changeable.

19. (Currently Amended) The air conditioning system ~~(401)-(601)~~ according to ~~any one of claims~~ claim 12 to 18, wherein

at system startup, treatment of the latent heat load in a room by the first utilization side refrigerant circuits ~~(210a, 210b)~~ is given priority over treatment of the sensible heat load in a room by the second utilization side refrigerant circuits ~~(510a, 510b) (710a, 710b)~~.

20. (Currently Amended) The air conditioning system ~~(401)-(601)~~ according to claim 19, wherein

at system startup, treatment of the sensible heat load in a room by the second utilization side refrigerant circuits ~~(510a, 510b) (710a, 710b)~~ is stopped until ~~the~~ a dew point temperature of room air is equal to or below ~~the~~ a target dew point temperature.

21. (Currently Amended) The air conditioning system ~~(401)-(601)~~ according to claim 19, wherein

at system startup, treatment of the sensible heat load in a room by the second utilization side refrigerant circuits ~~(510a, 510b) (710a, 710b)~~ is stopped until ~~the~~ an absolute humidity of room air is equal to or below ~~the~~ a target absolute humidity.

22. (Currently Amended) The air conditioning system ~~(401)-(601)~~ according to ~~any one of claims~~ claim 19 to 21, wherein

at system startup, outdoor air is passed through ~~an~~ one of the adsorbent heat exchanger, ~~whichever~~ exchangers that is performing ~~the~~ a regeneration process, ~~among the~~

~~plurality of adsorbent heat exchangers (222, 223, 232, 233), and then is exhausted to the outside, and also then, room air is passed through an one of the adsorbent heat exchanger, whichever exchangers that is performing the adsorption process, among the plurality of adsorbent heat exchangers, and then is again supplied to a room.~~

23. (Currently Amended) The air conditioning system (401)-(601) according to ~~any one of claims~~ claim 19 to 22, wherein

before starting ~~the~~ a system startup operation, ~~whether or not~~ a dew point temperature difference between ~~the~~ a target dew point temperature of room air and ~~the~~ a dew point temperature of the room air is ~~equal to or below a predetermined dew point temperature difference~~ is determined, and

when the dew point temperature difference between the target dew point temperature of room air and the dew point temperature of room air is equal to or below a predetermined dew point temperature difference, the startup operation is prevented from being performed.

24. (Currently Amended) The air conditioning system (401)-(601) according to ~~any one of claims~~ claim 19 to 22, wherein

before starting ~~the~~ a system startup operation, ~~whether or not~~ an absolute humidity difference between ~~the~~ a target absolute humidity of room air and ~~the~~ an absolute humidity of the room air is ~~equal to or below a predetermined absolute humidity difference~~ determined, and

when the absolute humidity difference between the target absolute humidity of room air and the absolute humidity of room air is equal to or below a predetermined absolute humidity difference, the system startup operation is prevented from being performed.